

Threatened / Endangered Species Permit Annual Report

Submitted by Steven C. Garske
Endangered Species Permit #1473
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During 2009 I (with Chauncey Moran) collected the following Michigan Threatened species. In addition to the report below, I have completed Special Plant Survey Forms for both these populations (paper copies), and submitted them to the Michigan Natural Features Inventory.

SPECIES: *Myriophyllum farwellii* Morong (Farwell's water milfoil)

DATE: August 11, 2009

LOCATION: T50N, R29W, SW ¼ SE ¼ NW ¼ Section 26. Marquette County, Michigan.
46.70139°N, 87.90163°W (WGS84). Elevation is approximately 1668 ft above sea level.
Side pool of Mulligan Creek (Figure 1).

DIRECTIONS TO SITE: From the town of Humboldt, follow the Wolf Lake Road and subsequent roads north (mostly) roughly 18-20 miles, past Brocky Lake, the Dead River, and Wildcat Canyon Creek. Continue north another 2 miles, until the 2-track road becomes impassible to vehicles. Walk another 0.5-1.0 mile or so north to the Mulligan Creek crossing. The *M. farwellii* population inhabits the large pool east of (downstream from) the road.

POPULATION DATA:

Number of individuals: **Observed:** Probably >1000 **Collected:** ca. 2

Phenology: Many shoots had ripening fruit in the axils of the foliage leaves. Restricted visibility makes it impossible to accurately assign percentages of immature, sterile adults, flowering, fruiting plants.

HABITAT DATA:

Extent of habitat: Pool is about 180 meters square. **Percent occupied by species:** roughly 20% (?)

More plants may occur in the slow-moving section of the creek between the pool and the 2-track road to the west, but we couldn't see any.

Habitat and associated species:

The pool was connected to the stream and surrounded by sedge meadow. The *M. farwellii* plants were rooted in loose, apparently deep organic muck over boulders, in 0.5 m or more of water. The water was dark with tannins, obscuring most of the bottom of the pool. The pool was in full sun. The pH of the pool just after noon EDT on this sunny day was 5.93.

Associates included scattered *Nuphar variegata*, *Hypericum boreale*, *Potamogeton gramineus*, *Utricularia minor*, and abundant *Chara* spp. *Glyceria borealis*, *Puccinellia fernaldii*, *Sparganium chlorocarpum*, and *Juncus brevicaudatus* were frequent around the edges of the pool. Plants inhabiting the mostly open, boggy sedge meadow adjacent to the pool included *Calamagrostis canadensis*, *Scirpus cyperinus*, *Carex cryptolepis*, *Carex michauxiana*, *Carex lasiocarpa*, and scattered *Gentiana linearis*.

CONSERVATION DATA:

Overall site quality: The pool, stream, and surrounding sedge meadow are in essentially pristine condition. The surrounding landscape consists of a nearly pristine complex of second-growth forest, old-growth forest, wetlands, rivers and streams.

Potential threats: Kennecott Eagle Minerals Company, logging corporations and other corporate interests have formed "Woodland Road LLC" to turn the existing 2-track road into a paved, 2-lane industrial haul road. Construction would fill wetlands, and deposit silt into the creek immediately upstream from the site. Once in operation, there would be a constant influx of road salt, rock dust, heavy metals, and chemicals (oil, hydraulic fluid, etc.) into the creek. Accelerated logging will likely result in increased erosion to the watershed, adding silt, sand, etc. to the creek.

COLLECTION DATA:

Steve Garske and Chauncey Moran #760, University of Michigan Herbarium.

COMMENTS, ADDITIONAL INFORMATION, RECOMMENDATIONS:

The creek, pool, and surrounding wetlands should be protected. Construction and heavy use of an industrial haul road would probably severely damage or even destroy this population. Therefore a haul road should not be built here.

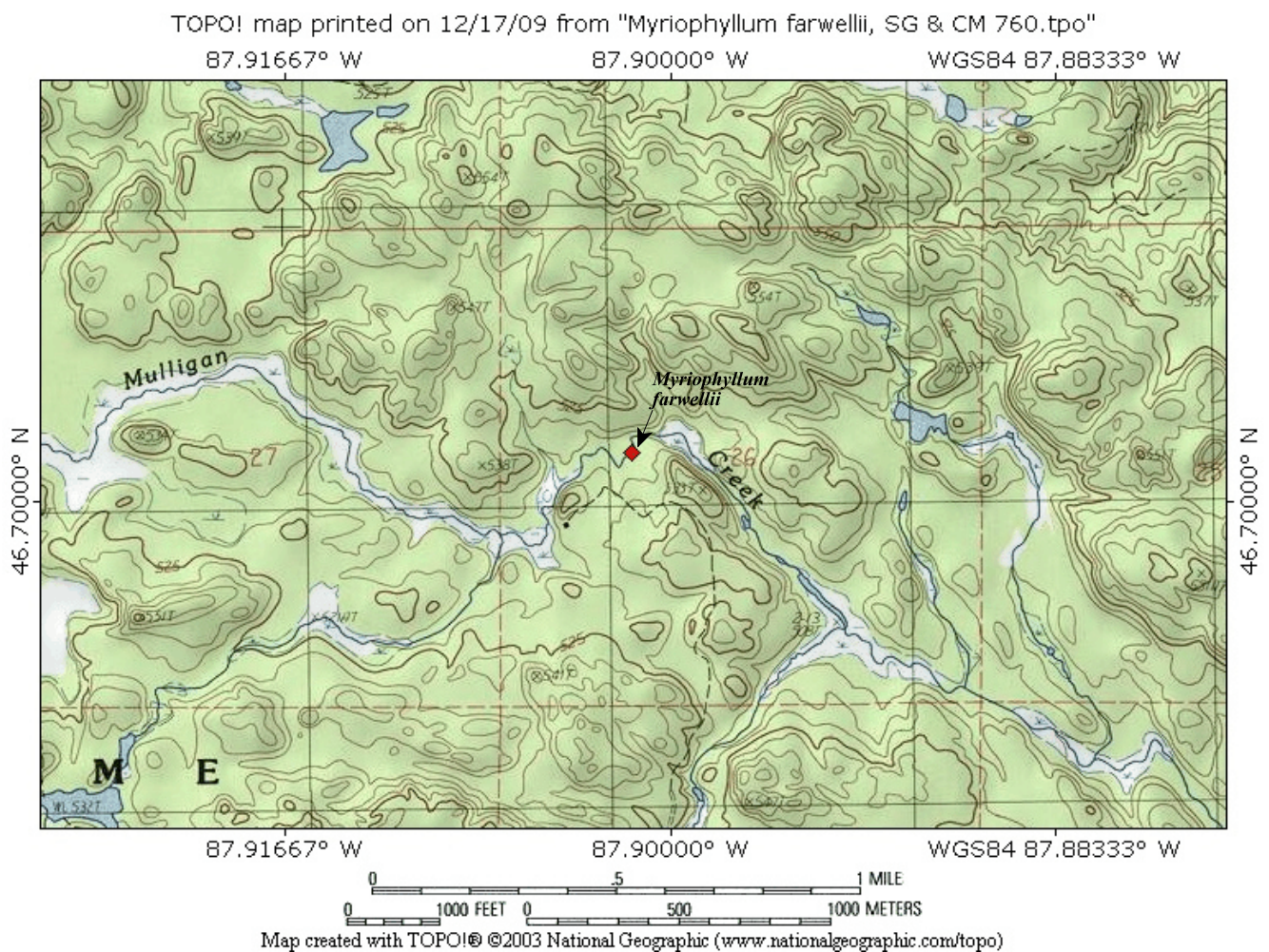


Figure 1. Location of Mulligan Creek *Myriophyllum farwellii* population.

SPECIES: *Myriophyllum farwellii* Morong (Farwell's water milfoil)

DATE: August 12, 2009

LOCATION: T49N, R29W, NE¼ NE¼ NW¼ Section 11. Marquette County, Michigan
46.66457°N, 87.89878°W (WGS84). Elevation is approximately 1679 ft above sea level.
Side pool of Wildcat Canyon Creek (Figure 2).

DIRECTIONS TO SITE: From the town of Humboldt, follow the Wolf Lake Road and subsequent roads (mostly) north roughly 18-20 miles, past Brocky Lake and the Dead River, until you reach Wildcat Canyon Creek. The *M. farwellii* population inhabits the small pools immediately east of (downstream from) the road.

POPULATION DATA:

Number of individuals: **Observed:** Probably several hundred **Collected:** ca. 2

Phenology: We could not find any shoots with flowers or fruit at this site.

HABITAT DATA:

Extent of habitat: About 12 m square. **Percent occupied by species:** roughly 10% (?)

Habitat and associated species:

The *M. farwellii* population inhabits several small pools on the north side of the creek. These pools are about 0.4 to 0.8 m deep. The plants were rooted in loose organic muck, which overlays a hard bottom. The water was dark with tannins, obscuring most of the bottom of the pool. The *M. farwellii* plants tended to be slightly shaded by the banks of the pools and by abundant *Myrica gale* dominating the surrounding wetland. More *M. farwellii* may occur in the slow-moving section of the creek between the pool and the 2-track road to the west, but we couldn't see any.

Associates included scattered *Brasenia schreberi*, *Nuphar variegata*, *Utricularia vulgaris*, and *Potentilla palustris*. The wetland surrounding the pools is dominated by *Carex stricta* and *Myrica gale*.

CONSERVATION DATA:

Overall site quality: Except for the 2-track road just west of the site, and the short spur road just north of it, the area consists of a nearly pristine complex of second-growth forest, old-growth forest, wetlands, rivers and streams.

Potential threats: Kennecott Eagle Minerals Company, logging corporations and other corporate interests have formed "Woodland Road LLC" to turn the existing 2-track road into a paved, 2-lane industrial haul road. The site is close enough to the proposed haul road that construction may bury it. Once in operation, there would be a constant influx of road salt, rock dust, heavy metals, and chemicals (oil, hydraulic fluid, etc.) into the creek. Accelerated logging will likely result in increased erosion, adding silt, sand, etc. to the creek.

COLLECTION DATA:

Steve Garske and Chauncey Moran #761, University of Michigan Herbarium.

COMMENTS, ADDITIONAL INFORMATION, RECOMMENDATIONS:

The creek, pools, and surrounding wetlands and forests should be protected. Construction of an industrial haul road would very likely destroy this population. Even if the population can be avoided during construction, the constant influx of road salt, rock dust, heavy metals, and chemicals (oil, hydraulic fluid, etc.) into the creek would probably damage or destroy it. Accelerated logging will likely result in increased erosion within the watershed, adding silt, sand, etc. to the creek. Therefore a haul road should not be built here.

